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been taken along the lower Colorado River; and the spurred towhee is not recorded from any of the desert regions of southern California, so that in the southernmost extension of their ranges, at least, *megalonyx* and *montanus* are separated by some three hundred miles of desert, in which neither form is found.

It may be of some interest to briefly glance over the distinguishing features of the various series of birds examined. Starting from the east we find first at the eastern base of the Rockies *arcticus*, with olivaceous back, extensively streaked with white. Going southward to New Mexico we encounter *montanus*, considerably darker, but with gray rump and with white streaks on back still quite extensive. I may say here that three examples of *montanus* from Fort Loveland, Colorado, have, in the character of their markings, a decided leaning toward *arcticus*. Crossing the desert to southern California, we find a still darker bird (*megalonyx*), with black rump and white markings on interscapulars reduced to a few spots. As we go north along the coast the birds became still darker, grading through *falcifer* to the extremely dark *oregonus*. With the specimens I examined it was possible to form an almost unbroken chain, both as to color and geographically from the olivaceous *arcticus* to black *oregonus*.

In this connection it may also be of interest to speak of some aberrant markings that were encountered in some of the specimens examined. These took the form in several examples of *arcticus*, of faint rusty markings on the occiput. A male specimen of *megalonyx* has a small chestnut spot on the middle of the throat, while another has nearly the whole of the back grayish, the black of the head being nearly as sharply defined against the back as in *Junco oreganus*. This last may possibly be a case of faded feathers due to arrested moult, though the specimen was shot in December and was otherwise in good condition. Another male specimen of *megalonyx* has the chestnut on one side much paler than on the other.

I would like in conclusion to express my gratitude to Mr. Grinnell for the loan of a valuable series of specimens from Pasadena and from Fort Tejon; to Mr. F. S. Daggett for the loan of a large number of skins from various localities in Los Angeles County and from Palo Alto; and also to Dr. Dearborn of the Field Columbian Museum for the privilege of examining the specimens under his care.

Chicago, Illinois.

### The American Crossbill in Montana

BY P. M. SILLOWAY

IN the summer of 1903 my attention was attracted by the unusual activity of the crossbill (*Loxia curvirostra minor*) in the Flathead forests. Late in June the adults became noticeable in their notes and movements, and in early July the subject was noted in my journal. On July 6, I made a record of the singing of the male as indicative of the fact that the birds were apparently enjoying a summer nuptial season; but somehow I had formed the conclusion that the crossbill nests only in late winter and early spring, and hence I was unusually blind to the real doings of the noisy chatterers in the tops of the tall conifers.

The regular call-note of the crossbill is a syllable sounding somewhat like the word "quit," generally uttered when the bird begins its flight from one station

to another, and given several times in nervous repetition. This note is also heard when the birds are at rest in the tree-tops, or when diligently rending the seeds from the fir and tamarack cones. The male uses this note as the basis of his song, which can be suggested by the syllables: "Quit, quit, quit, quit,—preen, preen, preen." Sometimes the last note is given four times, and frequently as many as five, while at times there is variation in the number of repetitions of the opening note. There is also considerable variation in the enunciation of the two notes, making them sound quite differently on various occasions. Once this summer I quoted the first note or the regular call as "pweet," and wrote the full song as "preet, preet, preet,—ooree, ooree, ooree."

The nuptial singing of the male is generally heard when he is accompanying the female and stationed near her in the tree-top. Frequently there are more than two birds, probably one female and two or more males, or two adults and several young of the spring. Troops of five or six are most commonly seen, the male sitting quietly and singing his nervous song while the others are sending down spatterings of cone-seeds. Soon something will startle the troop, and away they whirl to another station, the adults chirping noisily as they fly.

It is most interesting to watch a troop of crossbills getting down to the water to drink and bathe. For such purpose they generally congregate in larger flocks, and I have seen as many as thirty or forty use one tree-top. They seem to prefer the middle of the forenoon or late afternoon. Most of the crossbills in a small locality will collect into a noisy band, and gather in the top of some chosen tree on the margin of the water. Then one by one they will flutter downward through the midst of the branches, reminding the observer of falling leaves. Thus they sift downward to the lowest branches of the tree, usually a tall one, sometimes several of the birds flitting downward at one time. From the lower branches of the tree they flutter to the edge of the water.

The crossbills take pleasure in congregating on a small area to feed near a cabin door in a forest clearing. I have seen thirty crowding on a space not more than two feet square, feeding on refuse from the kitchen. Once a cat crept up in the usual feline manner, and made a spring directly into the midst of the troop; on that occasion, however, though several of the birds seemed to be quite under her paws, the cat was unsuccessful in holding any of them, and in a few minutes they were flitting back to the same dangerous place.

The remarkable activity of the crossbill in the late summer seemed very unusual to me, and I felt quite certain that the birds were nesting in the neighborhood. I had read, however, that the regular nesting time is late winter, when snow is on the ground; and while I made a mental note that there must be a mistake somewhere, I did not then give the subject due attention. This season, however, the same condition of affairs prevailed in the economy of the crossbills, and I decided that the nuptial singing of the males must be explained.

On July 19 a pair of crossbills flitted down to the ground almost at my feet, quite overlooking my presence, the male chattering to his spouse. To my surprise she began picking up fragments of twigs in the edge of the clearing. Presently she flew away with a suitable twig, and carried it into the top of a tall tamarack in the outer part of the adjacent woods. I watched her while she made several similar errands. The site was near the extremity of a horizontal branch, about 100 feet from the ground. Frequently she made trips to a neighboring tamarack tree, and gathered pieces of small twigs, breaking them from their places and carrying them to the nest.

The next day the pair did not seem to be working on the nest. The male

was sitting high in a neighboring tree, near the end of a horizontal branch, singing his "preet, preet, preet, preet,—ooree, ooree, ooree," but the female was not seen during the half hour I watched while he sat in the one place and sang. I could not understand the situation, but later it became clear to me.

On July 26 we investigated the status of affairs at the crossbill's nest. It was exactly 100 feet from the ground, about five feet from the main trunk; but the supposed nest was only a collection of small twigs. It was really a "dummy," on which the birds had worked very faithfully for a time. For a while I was puzzled; then it occurred to me that the real nest must be somewhere near the place where the male had sat so long and sung on the former occasion. I turned my attention to the place, and presently the male came to the place, hopped carelessly along the branch, to a suspicious-looking tuft of small twigs, and then passed farther along the branch. Then I could see the nest, and could even see the female sitting there.

On July 27 the real nest was taken. It was sixty-five feet from the ground, among twigs ten feet from the main stem of the tall tamarack tree which contained it. It was taken by tying a long rope about twenty feet above the nest, and then swinging it out on the ground until the collector could swing alongside the nest. It contained four eggs, on which the female sat until shaken from her cosy home. The nest was made externally of dry tamarack twigs, with fine dry grass stems, dark brown lichens, and horsehair. The cavity measured three inches and two and one-half inches major and minor axes, and was one and three-fourths inches deep. The base of the nest was a mass of bark strippings and gossamer. When blown, two of the eggs were found to be in an advanced state of incubation, the other two showed only traces of incubation. The female came near the collector several times, and once or twice sat by the side of the nest while the eggs were being packed. Later she was taken with the nest. The male did not come near while the collectors were at work.

In this connection I wish also to record the occurrence of the white-winged crossbill (*Loxia leucoptera*) in this region in summer. On one occasion I saw a beautiful male at Swan Lake, with a troop of American crossbills, bathing at the water's edge, under circumstances where there could be no mistake, though I did not collect it. Later I saw a female at Lake MacDonald, near Belton, when there could be no mistake in identification. It is my opinion that the crossbill breeds in numbers in this region, an opinion warranted on observations extending over six years, though I have never taken a nest until this season; and contrary to the general data as given in the books, the height of the breeding season in this region is the mid-summer.

Lewistown, Montana.

## FROM FIELD AND STUDY

**Discovery of a Second Egg of the Black Swift.**—On June 16, 1901, I took an egg of the black swift (*Cypseloides niger borealis*) and recorded it in *The Auk*, XVIII, 394. The authenticity of this egg was questioned by many, and altho I was positive myself, since I had no proof I had to be contented in knowing that I was right. I therefore resolved that if ever good fortune favored me again I would secure sufficient evidence to convince the most skeptical. Consequently I have been on the watch ever since, but not until July 9th of the present year, 1905, did I receive my reward by discovering the second egg or set, the circumstances being identical with those of 1901; that is, the birds were flying around in the vicinity of the nesting site, sometimes nearby and again a mile or two away.